

FIGURE 1:
ELECTRICAL & CONTROL SYSTEM
TO INDIVIDUALLY CONTROL A
PLURALITY OF DIRECT CURRENT
TRACTION MOTORS

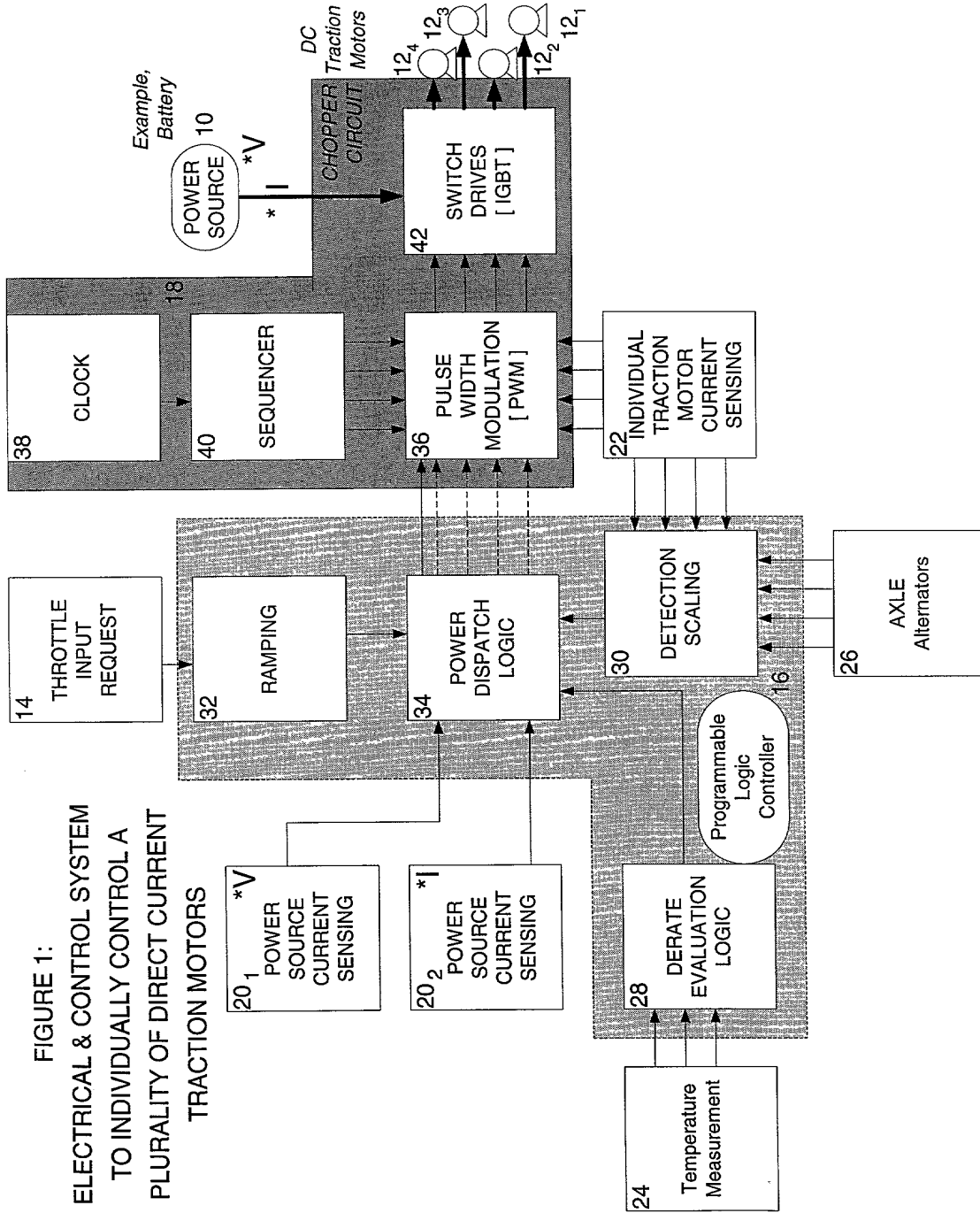
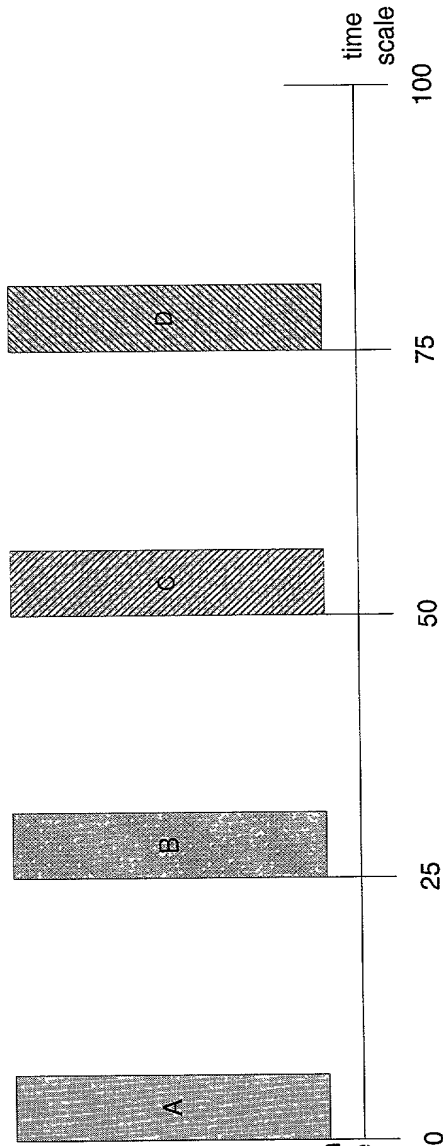


Illustration of Sequenced Pulse Width Modulation

When pulses are narrow in a starting condition, instantaneous current is high, illustrated by "tall" pulses

FIGURE 2A

For example, On 1/16 of the cycle



On 1/4 of the cycle; Motor 3 off

FIGURE 2B

As back EMF is generated by motor speed, voltage difference decreases producing lower current flow.

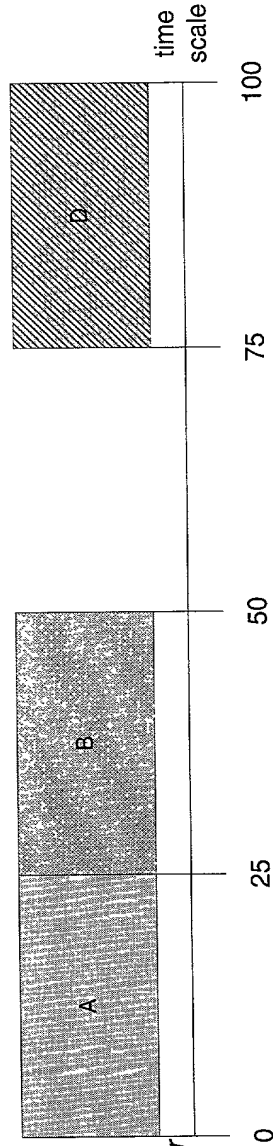


FIGURE 2C

On 100%, all pulses are on all of the time

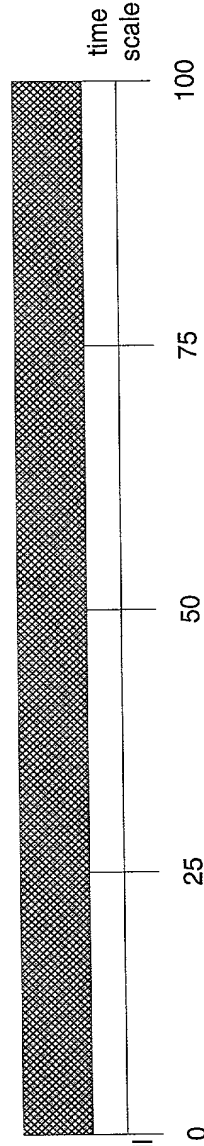


FIGURE 3: Power Application Curves - Objective of Pulse Width Modulation

